



SEQUENCE LISTING

<110> Takano, Eriko
Bibb, Mervyn

<120> Antibiotic Production

<130> 0380-P02329US1

<140> US 10/017,471

<141> 2001-10-23

<150> US 60/242,561

<151> 2000-10-23

<160> 19

<170> PatentIn Ver. 2.1

<210> 1

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 1

gaccacgtsc csggcatg

18

<210> 2

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 2

gtcctgstgg ccsigtsacsc gsac

24

<210> 3

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 3

gccagcaggt gggcgacctg ac

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<210> 4

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 4

gatcgcccggt tctgtcttgg ccatg

25

<210> 5

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 5

tatccagctg accgggaacg cgtc

24

<210> 6

<211> 24

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 6

atcgcccggt cctgtcttggc catg

24

<210> 7

<211> 22

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 7

aagtagaggg ctcccttggt ca

22

<210> 8

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
oligonucleotide

<400> 8

caaaactact gcttcgggca tg

22

<210> 9

<211> 22

<212> DNA

<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
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<400> 9
 ctgcaccctg gtccggtgga ca 22

<210> 10
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 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 oligonucleotide

<400> 10
 atcgcccggg cctgcttggc catg 24

<210> 11
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 <223> Description of Artificial Sequence: Synthetic
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<400> 11
 catctgcagc gtgatcgtgg cagcttggtg g 31

<210> 12
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 <212> DNA
 <213> Streptomyces coelicolor

<400> 12
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 gatcgagttg gcatcggacg cagaattgat caaaactact gcttcgggca tgggtccccc 180
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<210> 13
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 <212> DNA
 <213> Streptomyces coelicolor

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<210> 14
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 <212> PRT
 <213> Streptomyces coelicolor

<400> 14
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 1 5 10 15
 Ile Glu Gln Thr Ala Leu Pro Val Pro Met Ala Leu Val His Arg Thr
 20 25 30
 Arg Val Gln Asp Ala Phe Pro Val Ser Trp Ile Pro Lys Gly Gly Asp
 35 40 45
 Arg Phe Ser Val Thr Ala Val Leu Pro
 50 55

<210> 15
 <211> 37
 <212> PRT
 <213> Streptomyces coelicolor

<400> 15
 Met Ala Lys Gln Asp Arg Ala Ile Arg Thr Arg Gln Thr Ile Leu Asp
 1 5 10 15
 Ala Ala Ala Gln Val Phe Glu Lys Gln Gly Tyr Gln Ala Ala Thr Ile
 20 25 30
 Thr Glu Ile Leu Lys
 35

<210> 16
 <211> 215
 <212> PRT
 <213> Streptomyces coelicolor

<400> 16
 Met Ala Lys Gln Asp Arg Ala Ile Arg Thr Arg Gln Thr Ile Leu Asp
 1 5 10 15
 Ala Ala Ala Gln Val Phe Glu Lys Gln Gly Tyr Gln Ala Ala Thr Ile
 20 25 30
 Thr Glu Ile Leu Lys Val Ala Gly Val Thr Lys Gly Ala Leu Tyr Phe
 35 40 45
 His Phe Gln Ser Lys Glu Glu Leu Ala Leu Gly Val Phe Asp Ala Gln
 50 55 60
 Glu Pro Pro Gln Ala Val Pro Glu Gln Pro Leu Arg Leu Gln Glu Leu
 65 70 75 80
 Ile Asp Met Gly Met Leu Phe Cys His Arg Leu Arg Thr Asn Val Val
 85 90 95
 Ala Arg Ala Gly Val Arg Leu Ser Met Asp Gln Gln Ala His Gly Leu
 100 105 110
 Asp Arg Arg Gly Pro Phe Arg Arg Trp His Glu Thr Leu Leu Lys Leu
 115 120 125

Leu Asn Gln Ala Lys Glu Asn Gly Glu Leu Leu Pro His Val Val Thr
 130 135 140
 Thr Asp Ser Ala Asp Leu Tyr Val Gly Thr Phe Ala Gly Ile Gln Val
 145 150 155 160
 Val Ser Gln Thr Val Ser Asp Tyr Gln Asp Leu Glu His Arg Tyr Ala
 165 170 175
 Leu Leu Gln Lys His Ile Leu Pro Ala Ile Ala Val Pro Ser Val Leu
 180 185 190
 Ala Ala Leu Asp Leu Ser Glu Glu Arg Gly Ala Arg Leu Ala Ala Glu
 195 200 205
 Leu Ala Pro Thr Gly Lys Asp
 210 215

<210> 17
 <211> 313
 <212> PRT
 <213> Streptomyces coelicolor

<400> 17
 Met Pro Glu Ala Val Val Leu Ile Asn Ser Ala Ser Asp Ala Asn Ser
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 Ile Glu Gln Thr Ala Leu Pro Val Pro Met Ala Leu Val His Arg Thr
 20 25 30
 Arg Val Gln Asp Ala Phe Pro Val Ser Trp Ile Pro Lys Gly Gly Asp
 35 40 45
 Arg Phe Ser Val Thr Ala Val Leu Pro His Asp His Pro Phe Phe Ala
 50 55 60
 Pro Val His Gly Asp Arg His Asp Pro Leu Leu Ile Ala Glu Thr Leu
 65 70 75 80
 Arg Gln Ala Ala Met Leu Val Phe His Ala Gly Tyr Gly Val Pro Val
 85 90 95
 Gly Tyr His Phe Leu Met Thr Leu Asp Tyr Thr Cys His Leu Asp His
 100 105 110
 Leu Gly Val Ser Gly Glu Val Ala Glu Leu Glu Val Glu Val Ala Cys
 115 120 125
 Ser Gln Leu Lys Phe Arg Gly Gly Gln Pro Val Gln Gly Gln Val Asp
 130 135 140
 Trp Ala Val Arg Arg Ala Gly Arg Leu Ala Ala Thr Gly Thr Ala Thr
 145 150 155 160
 Thr Arg Phe Thr Ser Pro Gln Val Tyr Arg Arg Met Arg Gly Asp Phe
 165 170 175
 Ala Thr Pro Thr Ala Ser Val Pro Gly Thr Ala Pro Val Pro Ala Ala
 180 185 190
 Arg Ala Gly Arg Thr Arg Asp Glu Asp Val Val Leu Ser Ala Ser Ser
 195 200 205

Gln Gln Asp Thr Trp Arg Leu Arg Val Asp Thr Ser His Pro Thr Leu
 210 215 220
 Phe Gln Arg Pro Asn Asp His Val Pro Gly Met Leu Leu Leu Glu Ala
 225 230 235 240
 Ala Arg Gln Ala Ala Cys Leu Val Thr Gly Pro Ala Pro Phe Val Pro
 245 250 255
 Ser Ile Gly Gly Thr Arg Phe Val Arg Tyr Ala Glu Phe Asp Ser Pro
 260 265 270
 Cys Trp Ile Gln Ala Thr Val Arg Pro Gly Pro Ala Ala Gly Leu Thr
 275 280 285
 Thr Val Arg Val Thr Gly His Gln Asp Gly Ser Leu Val Phe Leu Thr
 290 295 300
 Thr Leu Ser Gly Pro Ala Phe Ser Gly
 305 310

<210> 18
 <211> 262
 <212> PRT
 <213> Streptomyces coelicolor

<400> 18
 Met Arg Ala His Gly Thr Arg Tyr Gly Arg Pro Leu Glu Gly Lys Thr
 1 5 10 15
 Ala Leu Val Thr Gly Gly Ser Arg Gly Ile Gly Arg Gly Ile Ala Leu
 20 25 30
 Arg Leu Ala Ala Asp Gly Ala Leu Val Ala Val His Tyr Gly Ser Ser
 35 40 45
 Glu Ala Ala Ala Arg Glu Thr Val Glu Thr Ile Arg Ser Ser Gly Gly
 50 55 60
 Gln Ala Leu Ala Ile Arg Ala Glu Leu Gly Val Val Gly Asp Ala Ala
 65 70 75 80
 Ala Leu Tyr Ala Ala Phe Asp Ala Gly Met Gly Glu Phe Gly Val Pro
 85 90 95
 Pro Glu Phe Asp Ile Leu Val Asn Asn Ala Gly Val Ser Gly Ser Gly
 100 105 110
 Arg Ile Thr Glu Val Thr Glu Glu Val Phe Asp Arg Leu Val Ala Val
 115 120 125
 Asn Val Arg Ala Pro Leu Phe Leu Val Gln His Gly Leu Lys Arg Leu
 130 135 140
 Arg Asp Gly Gly Arg Ile Ile Asn Ile Ser Ser Ala Ala Thr Arg Arg
 145 150 155 160
 Ala Phe Pro Glu Ser Ile Gly Tyr Ala Met Thr Lys Gly Ala Val Asp
 165 170 175
 Thr Leu Thr Leu Ala Leu Ala Arg Gln Leu Gly Glu Arg Gly Ile Thr
 180 185 190

Val Asn Ala Val Ala Pro Gly Phe Val Glu Thr Asp Met Asn Ala Arg
195 200 205

Arg Arg Gln Thr Pro Glu Ala Ala Ala Ala Leu Ala Ala Tyr Ser Val
210 215 220

Phe Asn Arg Ile Gly Arg Pro Asp Asp Ile Ala Asp Val Val Ala Phe
225 230 235 240

Leu Ala Ser Asp Asp Ser Arg Trp Ile Thr Gly Gln Tyr Val Asp Ala
245 250 255

Thr Gly Gly Thr Ile Leu
260

<210> 19
<211> 4346
<212> DNA
<213> Streptomyces coelicolor

<400> 19

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ggccccgccg	gcggcacgca	catcgacgtc	catctcccac	tgcgcccccg	gaaagtgage	180
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